IN THE CLAIMS

Please amend claim 1, without prejudice or disclaimer, and add new claims 6-9, as follows. Below is a complete list of the claims of this application.

Claim 1 (Currently Amended): A rotary actuator comprising:

a tube having first and second hydraulic ports formed separated a predetermined distance from each other and through which oil enters and is exhausted and at least two tube through holes penetrating a side surface of the tube;

an end cap coupled to the tube and having a first flange fixed to a predetermined first platform;

an axle rod including a second flange portion disposed at one side of the tube and fixed to a predetermined second platform to be rotated, a slant groove rod disposed in one portion of the tube and having at least two first slant grooves formed inclined on an outer circumferential surface, and ~~an axle~~ a shaft rod disposed in the other portion of the tube and ~~sliding~~ rotating coupled to the end cap;

a piston including a piston head disposed between the tube and the axle rod and a slant groove body disposed between the tube and the slant groove rod, wherein at least two second slant grooves are formed on an outer circumferential surface of the slant groove body to be opposite to the direction of the first slant groove and at least two piston pin holes are formed at one side of the slant groove body in a non grooved portion thereof, the piston having a smooth bore extending therethrough;

a first pin installed at the piston pin hole and inserted in the first slant groove; and

a second pin including a pin end portion penetrating the tube through hole and inserted in the second slant groove and a pin head formed on the pin end portion to be stepped and inserted in the tube through hole.

Claim 2 (Original): The rotary actuator as claimed in claim 1, wherein the piston pin holes are symmetrical formed in the slant groove body.

Claim 3 (Original): The rotary actuator as claimed in claim 1, wherein the tube through holes are symmetrical formed in the tube.

Claim 4 (Original): The rotary actuator as claimed in claim 1, further comprising sliding rings installed between the first flange portion and the tube and/or between the second flange portion and the tube.

Claim 5 (Original): The rotary actuator as claimed in claim 1, further comprising thrust bearings installed between the first flange portion and the tube and/or between the second flange portion and the tube.

Claim 6 (New): A rotary actuator, comprising:

a tube defining an axial axis and having at least two holes therein;

a piston disposed in the tube and configured for displacement along the axial axis, the piston having a bore extending therethrough and aligned with the axial axis, the bore being defined by a smooth inner surface, the piston comprising a spline extending radially outwardly therefrom, the spline being formed by plurality of grooves and a plurality of non-grooved portions, at least some of the non-grooved portions of the spline defining a passageway extending radially inwardly through a side of the piston;

a first set of pins extending radially through the tube to engage the grooves in the spline of the piston;

an axle rod disposed in the bore of the piston, the axle rod having a second spline extending radially outwardly therefrom; and

a second set of pins each positioned through a passageway through the piston to engage the second spline.

Claim 7 (New): The rotary actuator of claim 6, wherein the second set of pins are positioned in the piston so that the second set of pins is flush with the non-grooved portions of the spline.

Claim 8 (New): The rotary actuator of claim 6, wherein the second spline has a second plurality of grooves that extend about the axial axis in an opposite direction from the plurality of grooves in the piston.

Claim 9 (New): The rotary actuator of claim 6, wherein the second spline has a second plurality of grooves that extend about the axial axis in an opposite direction from the plurality of grooves in the piston causing the axle rod to undergo increased rotation per linear movement of the piston along the axial axis.